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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/514,408	06/08/2005	Douglas A. Doers	025234-9003	6863

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EXAMINER	
LOPEZ, FRANK D	

ART UNIT	PAPER NUMBER
3745	

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/514,408	DOERS, DOUGLAS A.	
	Examiner	Art Unit	
	F. Daniel Lopez	3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-6,8-12 and 14-17* is/are rejected.

7)☐ Claim(s) *7 and 13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/15/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 5, 6, 8 and 17 are rejected under 35 U.S.C. § 102(e) as being anticipated by Gaiser et al (see discussion below).

Claims 1, 5, 6 and 17 are rejected under 35 U.S.C. § 102(b) as being anticipated by Cornet. Cornet discloses a piston comprising a crown (1) attached to a skirt (10, J); wherein the crown has a lower surface facing an upper surface of a top portion of the skirt, defining an annular lubrication cavity (18); the skirt having a cylindrically shaped wall portion (J) extending from the top portion, defining a skirt cavity; wherein the top portion includes a lower surface defining a bearing surface (in 2) for a wristpin; wherein the top portion includes an inlet hole (22) communicating between the skirt and lubricating cavities, to supply lubricant from the skirt cavity to the lubrication cavity, and two lubrication holes (14), communicating between the lubrication and skirt cavities, to supply lubricant from the lubrication cavity to the bearing surface.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 2, 3, 9-12, 14, and 16 are rejected under 35 U.S.C. § 103 as being unpatentable over Gaiser et al in view of Ribeiro et al and Zhu et al. Gaiser et al discloses a piston comprising a crown (76) welded to a skirt (78); wherein the crown has a lower surface facing an upper surface of a top portion of the skirt, defining an annular lubrication cavity (42); the skirt having a cylindrically shaped wall portion extending from the top portion, defining a skirt cavity (72); wherein the top portion includes a lower surfaces defining a bearing surface (58) for a wristpin; wherein the top portion includes two inlet holes (80) communicating between the skirt and lubricating cavities, to supply lubricant from the skirt cavity to the lubrication cavity, and two lubrication holes (90), communicating between the lubrication and skirt cavities, to supply lubricant from the lubrication cavity to the bearing surface; wherein a central cavity (54) is defined by the lower surface of the crown and side surfaces of the top portion of the skirt; wherein the central cavity communicates with lubrication cavity by two bypass holes (86); and wherein the central cavity is open at the bottom to allow the central cavity to communicate with the skirt cavity and for a connecting rod (52) to fit within the central cavity; but does not disclose that the central cavity is defined by the upper surface of the top portion, with a central lubrication hole allowing the central cavity to communicate with the skirt cavity.

Ribeiro et al teaches, for a piston comprising a crown (12) welded to a skirt (14); wherein the crown has a lower surface facing an upper surface of a top portion of the skirt, defining an annular lubrication cavity (62); the skirt having a cylindrically shaped wall portion extending from the top portion, defining a skirt cavity (80); wherein the top portion includes a lower surfaces defining a bearing surface (100) for a wristpin; wherein a central cavity (68) is defined by the lower surface of the crown and side surfaces of the top portion of the skirt; wherein the central cavity communicates with lubrication cavity by two bypass holes (70); that the central cavity is defined by the upper surface (88) of the top portion, with a central lubrication hole (72) allowing the central cavity to communicate with the skirt cavity; wherein a connecting rod can be fitted below the central cavity (see fig 3).

Zhu et al teaches, for a piston (fig 4) comprising a crown (202) welded to a skirt (204); wherein the crown has a lower surface facing an upper surface of a top portion of the skirt, defining an annular lubrication cavity (222); the skirt having a cylindrically shaped wall portion extending from the top portion, defining a skirt cavity (227); wherein the top portion includes a lower surfaces defining a bearing surface (221a) for a wristpin; wherein a central cavity (220) is defined by the lower surface of the crown and side surfaces of the top portion of the skirt; wherein the central cavity communicates with lubrication cavity by two bypass holes (223); that the central cavity is defined by the upper surface (206d) of the top portion, with a central lubrication hole (206e) allowing the central cavity to communicate with the skirt cavity, for the purpose of containing a certain volume of oil in the central cavity, to cool an upper wall of the central cavity (column 4 line 45-54).

Since Gaiser et al, Ribeiro et al and Zhu et al are all from the same field of endeavor, the purpose disclosed by Zhu et al would have been recognized in the pertinent art of Gaiser et al. It would have been obvious at the time the invention was made to one having ordinary skill in the art to define the central cavity of Gaiser et al by the upper surface of the top portion, with a central lubrication hole allowing the central cavity to communicate with the skirt cavity, as taught by Ribeiro et al, for the purpose of containing a certain volume of oil in the central cavity, to cool an upper wall of the central cavity, as taught by Zhu et al.

Claims 4 and 15 are rejected under 35 U.S.C. § 103 as being unpatentable over Gaiser et al in view of Ribeiro et al and Zhu et al, as applied to claims 2 and 9, respectively, and further in view of Hazen et al. The modified Gaiser et al discloses all the elements of claims 4 and 1, as discussed in the above rejection; but does not disclose that the central cavity includes internal threads which engages a threaded boss of the crown or the top portion, to join the crown to the skirt.

Hazen et al teaches, for a piston comprising a crown (1) joined to a skirt (2); wherein the crown has a lower surface facing an upper surface of a top portion of the skirt, defining an annular lubrication cavity (11); the skirt having a cylindrically shaped

wall portion extending from the top portion, defining a skirt cavity (within 18); wherein the top portion includes a lower surfaces defining a bearing surface (4) for a wristpin; wherein a central cavity (20) is defined by the lower surface of the crown and upper surface of the top portion of the skirt; wherein the central cavity communicates with lubrication cavity by bypass holes (22); that the central cavity includes internal threads (7) which engages a threaded boss (8) of the crown, for the purpose of joining the crown to the skirt.

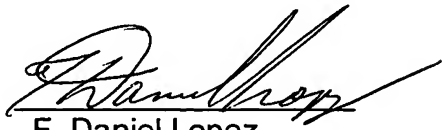
Since the weld joint between the crown and skirt of the modified Gaiser et al and the threaded joint between the crown and skirt of Hazen et al are interchangeable in the piston art, it would have been obvious at the time the invention was made to one having ordinary skill in the art to replace the weld joint of the modified Gaiser et al with a threaded joint, wherein the central cavity includes internal threads which engages a threaded boss of the crown, as taught by Hazen et al, as a matter of engineering expediency.

Conclusion

Claims 7 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is 571-272-4821. The examiner can normally be reached on Monday-Thursday from 6:15 AM -3:45 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on 571-272-4820. The fax number for this group is 571-273-8300. Any inquiry of a general nature should be directed to the Help Desk, whose telephone number is 1-800-PTO-9199.



F. Daniel Lopez
Primary Examiner
Art Unit 3745
July 26, 2006